Validation

Exam Window

15th to 19th January

What we have done so far

Designed a relational database structure that:

- Matches the data provided
- Avoids unnecessary duplication of data
- Uses recognised naming conventions
- Ensures data integrity

What next?

Provide accurate validation rules where appropriate ensuring a minimum of:

- A range check on a suitable field,
- A presence check on a suitable field
- A list check or table lookup

Validation

Validation is an automatic computer check to ensure that the data entered is sensible and reasonable. It does not check the accuracy of data.

Validation and **verification** are two ways to check that the data entered into a computer is correct. Data entered incorrectly is of little use

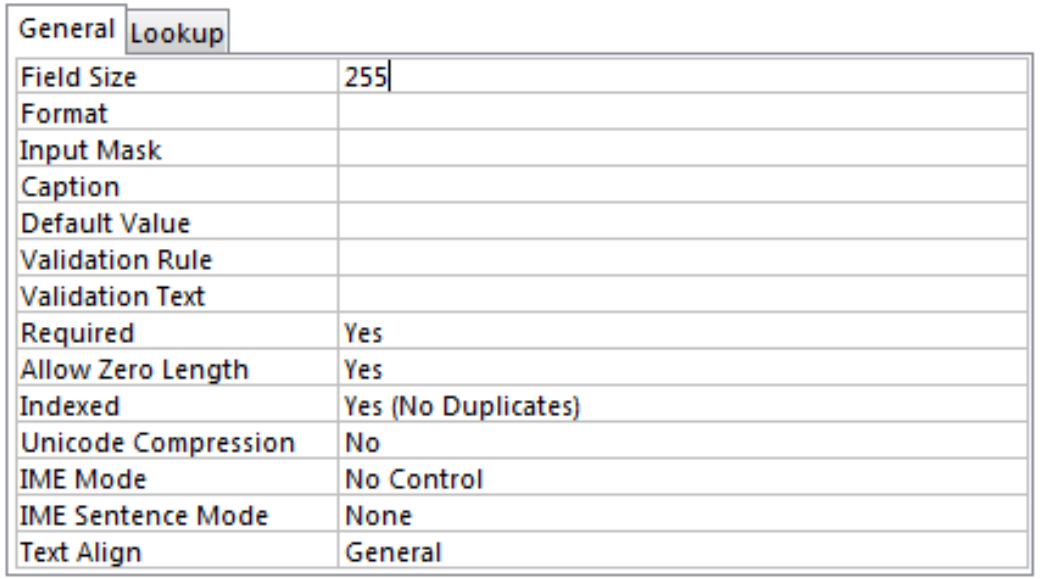
Types of Validation

- Length check
- Format Check
- Range Check
- Presence check
- Value lookup (list)

Types of Validation

Length check

- Checks the data isn't too short or too long
- Field sizes on foreign keys should match their primary key



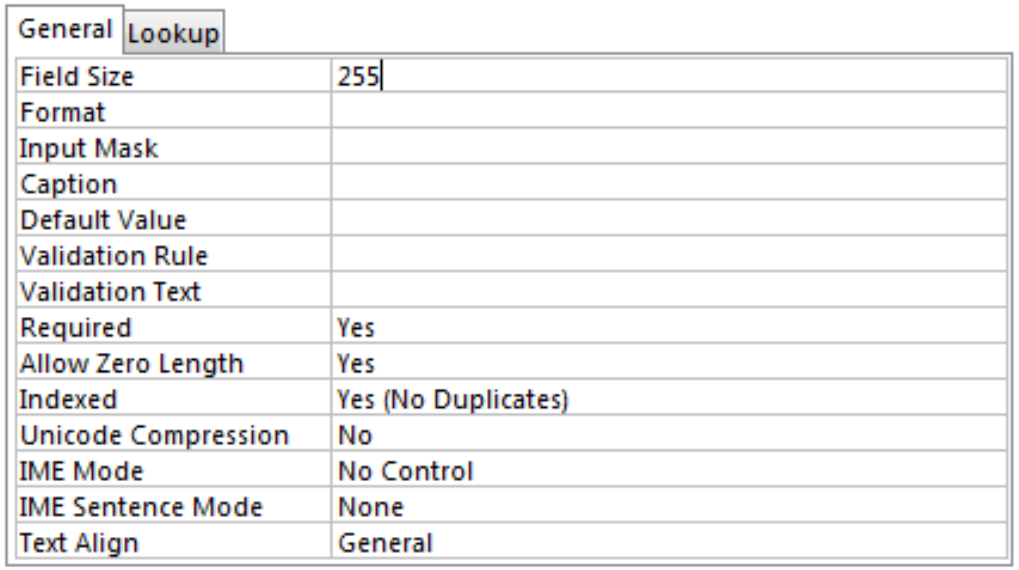
What property do we use for this?

Why is it important?

Types of Validation

Format Check

- Can be an input mask or validation rule property
- Checks the data is in the right format
- E.g. a national Insurance number is in the form **LL 99 99 99 L** where L is any letter and 9 is any number



What field in your database would suit a format check?

Types of Validation

Input Masks

Character	Explanation
0	User must enter a digit (0 to 9).
9	User can enter a digit (0 to 9).
#	User can enter a digit, space, plus or minus sign. If skipped, Access enters a blank space.
L	User must enter a letter.
?	User can enter a letter.
A	User must enter a letter or a digit.
a	User can enter a letter or a digit.
&	User must enter either a character or a space.
C	User can enter characters or spaces.
. , : ; - /	Decimal and thousands placeholders, date and time separators. The character you select depends on your Microsoft Windows regional settings.
>	Coverts all characters that follow to uppercase.
<	Converts all characters that follow to lowercase.
!	Causes the input mask to fill from left to right instead of from right to left.
\	Characters immediately following will be displayed literally.
""	Characters enclosed in double quotation marks will be displayed literally.

Types of Validation

BandID	Customer gender	VenueID	PromotionalgoodsID	Promotional goods	Price	Customer first name	ConcertID
ICMUS	F	VEN4	CB1	Charm bracelet	22.5	Amy	C1
TCJUN1	F	VEN2	PO1	Poster	9.99	Amy	C4
ICMUS	F	VEN1	CB1	Charm bracelet	22.5	Amy	C8
TCJUN1	M	VEN2	TS1	T-shirt	29.99	Jay	C4
GCLON1	M	VEN3	TS1	T-shirt	29.99	Jay	C5
ICPIN1	M	VEN4	TS1	T-shirt	29.99	Jay	C7
ICMUS	M	VEN1	TS1	T-shirt	29.99	Jay	C8
TCFISH1	M	VEN2	TS1	T-shirt	29.99	Hary	C3
GCLON1	M	VEN3	TS1	T-shirt	29.99	Hary	C5
ICPIN1	M	VEN4	TS1	T-shirt	29.99	Hary	C7
ICMUS	M	VEN1	TS1	T-shirt	29.99	Hary	C8
TCFISH1	M	VEN2	TS1	T-shirt	29.99	Tamp	C3
GCLON1	M	VEN3	TS1	T-shirt	29.99	Tamp	C5
ICMUS	M	VEN1	TS1	T-shirt	29.99	Seb	C8
TCFISH1	M	VEN2	TS1	T-shirt	29.99	Jack	C3
ICMUS	F	VEN4	DV1	DVD	15.99	Son	C1
ICMUS	F	VEN1	DV1	DVD	15.99	Son	C8
ICMUS	M	VEN4	DV1	DVD	15.99	Tom	C1
ICMUS	M	VEN1	DV1	DVD	15.99	Tom	C8
ICMUS	F	VEN4	TS1	T-shirt	29.99	Lily	C1
ICMUS	F	VEN1	TS1	T-shirt	29.99	Lily	C8
TCJUN1	M	VEN2				Peter	C4
ICMUS	M	VEN1	TS1	T-shirt	29.99	Peter	C8
TCFISH1	M	VEN2	TS1	T-shirt	29.99	Jojn	C3
TCJUN1	M	VEN2	DV1	DVD	15.99	Jojn	C4
ICPIN1	M	VEN4	TS1	T-shirt	29.99	Jojn	C7

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ICPIN1	M	VEN4	TS1	T-shirt	29.99	Jojn	C7

What fields in your database would suit a format check?

Venue ID = LLL9

Concert ID = L9

PromotionalGoodsID = LL9

Types of Validation

Range check

- Checks that a value falls within the specified range
- E.g. number of hours worked must be less than 50 and more than 0

How would you write this?

What property would we use?

Types of Validation

Range check

- Checks that a value falls within the specified range
- E.g. number of hours worked must be less than 50 and more than 0

How would you write this? **>0 and <50**

What property would we use? **Validation Rule**

Types of Validation

Presence check

- Checks that data has been entered into a field
- If the presence check is set to ‘yes’ then the field cannot be blank
- Create a validation rule too with suitable validation text

Why is it important to include validation text?

Do you program a presence check for a primary key field?

Types of Validation

Value Lookup (List check)

- Looks up acceptable values in a table
- E.g. – there are only 7 days in a week, so this data would be suitable for a list check

What data **would not** be suitable for a list check?

What fields in your database would be suitable?

Types of Validation

Band

BandID	Band name	Income	Click to Add
GCLON1	LongRock8	£89.00	
GCMOC1	Mockingbird	£89.00	
ICMUS	Musictune	£65.00	
ICPIN1	Ping Stars	£115.00	
SCBIG1	Big 6 Music	£65.00	
TCFISH1	Fisherman	£120.00	
TCJUN1	Jungle blu	£120.00	
		£0.00	

What type of validation could we design for Band ID?

What about Income?

What field size will you set for Band name?

Homework

Start your evaluation (part 1):

- Look at the relational database structure that you have designed (which is limited by the data that you were given)
- **Evaluate** why you chose that structure
- **Evaluate** the strengths of the structure
- Talk about what could be improved and **justify**
- Relate back to the scenario
- Do not just **describe** – you need **to evaluate** and **justify**